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Patent  
Case No.: 42698US059

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: MELBYE, WILLIAM L.  
Application No.: 10/689111 Group Art Unit: 3677  
Filed: October 20, 2003 Examiner: James R. Brittain  
Title: A METHOD FOR MAKING A MUSHROOM-TYPE HOOK STRIP FOR A  
MECHANICAL FASTENER

BRIEF ON APPEAL

Mail Stop: Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

## CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR § 1.8(a)]

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Feb. 15, 2006  
DateCarie M. Arcand  
Signed by: Carie M. Arcand

Dear Sir:

This is an appeal from the Office Action mailed on January 13, 2006, finally rejecting claims 1-12.

A Notice of Appeal in this application was faxed into the USPTO on January 31, 2006.

The fee required under 37 CFR § 41.20(b)(2) for filing an appeal brief should be charged to Deposit Account No. 13-3723.

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**REAL PARTY IN INTEREST**

The real party in interest is 3M Company (formerly known as Minnesota Mining and Manufacturing Company) of St. Paul, Minnesota and its affiliate 3M Innovative Properties Company of St. Paul, Minnesota.

**RELATED APPEALS AND INTERFERENCES**

Appellants are unaware of any related appeals or interferences.

**STATUS OF CLAIMS**

Claims 1-12 are pending. Claims 1-12 stand rejected.

**STATUS OF AMENDMENTS**

No amendments have been filed after the final rejection.

**SUMMARY OF CLAIMED SUBJECT MATTER**

The claims at issue concern a flexible low cost hook material such as used in disposable products where the backing and hooks are integrally formed in a manner that allows the backing to be very thin and flexible

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL****Sole Ground of Rejection**

Claims 1-12 stand rejected under 35 USC § 103(a) as purportedly unpatentable over the combined teachings of three unrelated patents Kalleberg (US Patent No. 4290174), Nealis (US Patent No. 3,270,408) and Rajala (US Patent No. 4861399).

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ARGUMENTFirst Ground of Rejection

## Claim 1

The claimed hook fastener has the following limitations

- 1) homogeneous flexible backing
- 2) thermoplastic backing
- 3) Backing has a thickness of 0.1 to 0.5 mm
- 4) Integrally formed upstanding stems on the backing
- 5) Stems distributed across the face of the backing
- 6) Base of stem adjacent the backing
- 7) Head on end of stem opposite the backing
- 8) Stems have a birefringence of at least 0.001

The examiner rejection states that the Primary reference Kallenberg teaches all limitation except 1), 3) and 8) . Applicants agree these limitations are missing in Kallenberg. Limitation 4) is also missing but the examiner appears to be ignoring this limitation. Apparently applicants are not allowed to claim the stems and the backing are an integral formed structure, although this is a reference to the method of manufacture it has a physical manifestation that the examiner is not simply able to ignore and is the key to the invention.

As stated in the "Summary of the Invention" the "invention provides a mushroom-type hook strip for a mechanical fastener...which hook strip affords the advantages of prior mushroom-type hook strips while being less expensive to manufacture". Prior expensive methods to manufacture where methods like those of Kallenberg, where the hooks were formed of filaments knitted into a backing. In fact in identifying the invention the terms of the claims are defined in view of the disclosure of Kallenberg:

**Briefly, the novel mushroom-type hook strip comprises a homogeneous backing of thermoplastic resin and, integral with backing, an array of upstanding stems distributed across at least one face of the backing, each having a mushroom head, said stems having a molecular orientation as evidenced by a birefringence value of at least 0.001. In contrast, the backing**

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**of the mushroom-type hook strip of the Kalleberg patent is not homogeneous because of the bight portions of the monofilaments, even when the monofilaments and backing are identical in chemical composition and fused together.**

Simply put the hooks of Kallenberg are clearly defined by applicants as not integral with the backing as well as the backing as well as not being homogenous.

The stems are integral with the backing as they are formed by a simultaneous extrusion process(note page 3 lines 25-30). This provides a backing with integral stems as defined by applicants in their specification. The examiners position appears that the term integral or integrally formed has no meaning, however this can not be the case. A material that is all one material and formed by a single extrusion step is very different than a material that has feature that are added by fusing, adhesive or knitting(as in Kallenberg). This is not a process feature it is a structural feature. If the examiner is simply allowed to ignore terms as used and defined by an applicant and either assign a meaning independent of how the term is used and defined by an applicant or dismiss the limitation , the ability for an applicant to define their invention becomes impossible.

The other missing limitations of Kallenberg are randomly grabbed from Nealis and Rajala.

Kallenberg is a mushroom type hook fastener as is already acknowledged by applicants , but it is formed by a complex and costly method where monofilaments are guided and formed by striker bars 39 and platens 31 to be first formed into U shaped forms that are then pressed into two opposing softened polymeric backings. The monofilaments are then cut by a hot wire which separates the two backings while forming mushroom heads on the monofilaments.

To address the limitations that the examiner does acknowledge as missing in Kallenberg first he goes to Nealis, to argue that the entire process of Kallenberg could be tossed out the window and one could instead use the process of Nealis., which would give one a homogeneous backing. The problem is that Nealis is a method of forming a zipper. In order to justify this the examiner uses the motivation from applicants specification making a low cost mushroom-type

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hook The problem is that Nealis is not a hook and describes forming their zipper material using conventional molding techniques. But nowhere in the art are conventional molding techniques taught as suitable for forming a sheet of hook material as taught in Kallenberg. Namely a film backing with an array of hooks extending in both the length and width. There is no way taught in the art to accomplish this. This is simple ignored by the examiner.

For next missing limitation Kallenberg on the backing thickness the rejection shifts back to a knitted type hook fastener. But this ignores again the vastly different methods used by these two patents. In Kallenberg it is essential that the monofilaments be embedded into the softened backing. A thin flexible backing would clearly not be desirable.

It is respectfully submitted that the rejection of the examiner based on the combination of Kallenberg, Nealis and Rajala et al. may only be made by impermissible hindsight reconstruction, that is, by picking and choosing from each document that which supports these rejections without any motivation other than that gleaned from applicants specification. One cannot "simply [to] engage in a hindsight reconstruction of the claimed invention, using the Applicant's structure as a template and selecting elements from references to fill the gaps." In re Gorman, 933 F.2d 982, 18 U.S.P.Q.2d 1885, 1888 (Fed. Cir. 1991).

As recently reasserted in Princeton Biochemicals, Inc. v. Beckman Coulter, Inc. (Fed. Cir., No. 04-1493, June 9, 2005), 35 U.S.C. §103 specifically requires an assessment of the claimed invention "as a whole." This "as a whole" assessment of the invention requires a showing that an artisan of ordinary skill in the art at the time of invention, confronted by the same problems as the inventor and with no knowledge of the claimed invention, would have selected the various elements from the cited references and combined them in the claimed manner. In other words, 35 U.S.C. §103 requires some suggestion or motivation, before the invention itself, to make the new combination. See In re Rouffet, 149 F.3d 1350, 1355-56 (Fed. Cir. 1998).

This "as a whole" instruction in 35 U.S. §103 prevents evaluation of the invention part by part. Without this important requirement, an obviousness assessment might successfully break an invention into its component parts, then find a reference corresponding to each component. This line of reasoning would import hindsight into the obviousness determination by using the

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invention as a roadmap to find its prior art components. Further, this improper method would discount the value of combining various existing features or principles in a new way to achieve a new result - often the essence of invention. Ruiz v. A.B. Chance Co., 357 F.3d 1270, 1275 (Fed. Cir. 2004). Simply identifying the various elements of a claim in the cited references does not render a claim obvious. Ruiz, 357 F.3d at 1275. Instead, 35 U.S. §103 requires some suggestion or motivation in the prior art to make the new combination. Rouffet, 149 F.3d at 1355-56. Applicants submit that the Examiner has engaged in an improper part by part analysis of the claimed produced, and, in particular, in making the current rejections based on picking out of context isolated elements of Kallenberg, in combination with Nealis and Rajala et al..

**Claims 2 and 12**

The limitations from these claims can not be found in Kallenberg. The monofilaments of Kallenberg have no taper.

**Claim 3**

The limitation from this claim can not be found in Kallenberg. The monofilaments have no fillet.

**Claim 4**

Kallenberg does teach this and this claim should stand or fall with claim 1.

**Claim 5**

Kallenberg does teach this and this claim should stand or fall with claim 1.

**Claim 6**

Kallenberg does teach this and this claim should stand or fall with claim 1.

**Claim 7-11**

These claims should stand or fall with claim 1.

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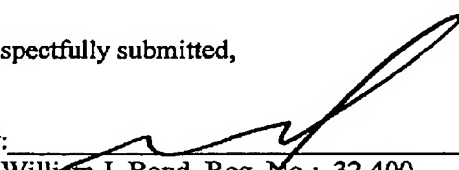
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CONCLUSION

For the foregoing reasons, appellants respectfully submit that the Examiner has erred in rejecting this application. Please reverse the Examiner on all counts.

Respectfully submitted,

2/15/06  
Date

By:   
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Telephone No.: 651-736-4790

Office of Intellectual Property Counsel  
3M Innovative Properties Company  
Facsimile No.: 651-736-3833

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CLAIMS APPENDIX

## THESE ARE THE CLAIMS WE SENT IN ON 10/28/05 RESPONSE

1. (currently amended) A flexible hook strip that can be used in a hook-and-loop mechanical fastener, said strip comprising a homogeneous flexible backing of thermoplastic resin having a thickness of from 0.1 to 0.5 mm and, integral integrally formed with said backing, an array of upstanding stems distributed across at least one face of the backing, each of said stems having a base adjacent said backing and a head at the end of the stem opposite said backing, said stems having a molecular orientation as evidenced by a birefringence value of at least 0.001.
2. (original) A hook strip as defined in claim 1 wherein the stems are of substantially identical shape and are each slightly tapered to a smaller cross sectional area adjacent the head than at the base.
3. (original) A hook strip as defined in claim 2 wherein said hook strip has a fillet at the base of each of said stems.
4. (original) A hook strip as defined in claim 3 wherein said stems are substantially circular in cross section.
5. (original) A hook strip as defined in claim 1 wherein said stems are of substantially uniform height and said mushroom heads are of substantially uniform diameter.
6. (original) A hook strip as defined in claim 5 wherein said stems are from 0.5 mm to 5 mm in height.
7. (original) A hook strip as defined in claim 1 wherein said backing is formed of a polypropylene or a copolymer of polypropylene and polyethylene.



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8. (original) A hook strip as defined in claim 7 wherein said stems are substantially circular in cross section and the ratio of the diameters of the mushroom head and the stem of each of said stems is from 1.5:1 to 3:1.

9. (original) A hook strip as defined in claim 1, wherein said backing of the hook strip is substantially continuous and is wound up into a roll for convenient storage and shipment.

10. (original) A hook strip as defined in claim 1 wherein the spacing of the headed stems is so configured that two pieces of the hook strip can interengage to provide a mechanical fastener.

11. (original) A hook strip as defined in claim 10 wherein the headed stems are of substantially identical size and shape and the spacing between adjacent heads along said hook strip is less than the diameter of the heads.

12. (original) A hook strip as defined in claim 11 wherein said stems are substantially circular in cross section and the stems are each slightly tapered to a smaller diameter adjacent the head than at the base.